Patent Claims

- A semiconductor laser, characterized in that
- 5 it contains at least one absorbing layer (8) within the laser resonator, said absorbing layer reducing the transmission T_{Res} of the laser radiation (10) in the laser resonator for the purpose of decreasing the sensitivity of the semiconductor laser to disturbances created by the radiation (9) fed back into the laser resonator.
- The semiconductor laser as claimed in claim 1, in which the absorbing layer (8) is situated in a node of a standing wave that forms during operation of the semiconductor laser in the laser resonator.
 - 3. The semiconductor laser as claimed in claim 1 or 2,
- in which the reflectivity of the mirrors of the resonator and the transmission T_{Res} of the laser radiation during a resonator circulation are set so as to produce a low sensitivity to disturbances for a wide range of possible output powers of the semiconductor laser.
 - 4. The semiconductor laser as claimed in one of claims 1 to 3,
- in which the semiconductor laser is a single-mode 30 laser.
 - 5. The semiconductor laser as claimed in one of claims 1 to 4,
- in which the semiconductor laser is a surface emitting 35 semiconductor laser (VCSEL).
 - 6. The semiconductor laser as claimed in one of

claims 1 to 4,

in which the semiconductor laser is a surface emitting semiconductor laser with an external resonator (VECSEL).

5

- 7. The semiconductor laser as claimed in claim 5 or 6,
- in which the surface emitting semiconductor laser contains a Bragg mirror (4) and the absorbing layer (8) is contained in said Bragg mirror (4).
 - 8. The semiconductor laser as claimed in one of claims 1 to 7,
- in which the absorbing layer (8) is a gallium arsenide 15 layer.
 - 9. The semiconductor laser as claimed in one of claims 1 to 8,
- in which the gallium arsenide layer is approximately $20\ 20\ nm\ thick.$
 - 10. The semiconductor laser as claimed in one of claims $1\ \text{to}\ 9$,
- which contains a plurality of absorbing layers within the laser resonator.